GOVERNMENT OF INDIA
WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION
LOK SABHA

STARRED QUESTION NO:404
ANSWERED ON:15.12.2016
Impact of Climate Change on Water Resources
Nimmala Shri Kristappa

Will the Minister of WATER RESOURCES, RIVER DEVELOPMENT AND GANAGA REJUVENATION be pleased to state:

(a) whether the Government has made or proposes to undertake any assessment on impact of climate change on water resources and if so, the details thereof;
(b) whether the Government has taken steps to evaluate the consequences of climate change in river flow or groundwater characteristics and also identify adaptation strategies and if so, the details thereof; and
(c) the concrete measures taken/to be taken to tackle the situation?

Answer

(a) to (c) A statement is laid on the Table of the House.
Statement referred in reply to parts (a) to (c) of Lok Sabha Starred Question No. *404 answered on 15.12.2016 raised by Shri Nimmala Kristappa, Member of Parliament regarding "Impact of Climate Change on Water Resources".
Central Water Commission has analysed year-wise water availability at terminal Hydrological Observation sites of important rivers. This does not show any specific trend of increase/decrease in water availability in the rivers.
The Ministry of Environment, Forest and Climate Change (MoEF&CC) has conducted an impact assessment of climate change on water resources. Accordingly, the impact of climate change and climate variability on the water resources are likely to affect irrigated agriculture, installed power capacity, environment flows in the dry season and higher flows in wet season, thereby causing severe drought and flood problems in different parts of the country.
Another study by MoEF&CC projects a Water yield which is likely to increase for Himalayan region (5-20%) and central portion of North-Eastern region (0-25%), whereas it is likely to decrease for northern portion of North-Eastern region (12%), Western Ghats (5-50%) and Coastal region (less than 40%).
The Dynamic Ground Water Resource Assessment of India, jointly assessed by Central Ground Water Board (CGWB) and State Ground Water Organizations, shows 1071 units in 16 States and 2 UTs as 'Over-exploited' out of 6607 assessment units (Firkas/Blocks/Mandals/Talukas/Districts) in the country.
The National Water Mission (NWM) in association with Asian Development Bank has conducted a study on "Operational Research to Support Mainstreaming of Integrated Flood Management under Climate Change" in Brahmani - Baitarni & Burhi Gandak river basins. The study suggests the frequency of years with above normal monsoon rainfall and of years with deficient rainfall is expected to increase. Rainfall events are projected to be more intense and possibly less frequent, with predictable implications for flooding and drought.
To evaluate the consequences of climate change on river flows & groundwater characteristics as well as to identify adaptation strategies this Ministry has awarded seven Research Projects on Mahanadi, Mahi, Luni, Tapi, Subarnarekha, Sabarmati river basins and western basins from Tadri to Kanyakumari to the apex national level Institutes like Indian Institute of Technology/National Institute of Technology, etc.
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The National Hydrology Project (NHP) has been launched for establishing a system for timely and reliable water resources data acquisition, storage, collation and management. NHP also envisages providing tools/systems for informed decision making through Decision Support Systems (DSS) for water resources assessment, flood management, reservoir operations, drought management, etc.
National Aquifer Mapping and Management Programme (NAQUIM) has been taken up by Central Ground Water Board as a part of the 'Ground Water Management and Regulation' scheme during XII Plan period (2012-17) with an overall objective of proper assessment and community based management to ensure sustainability of ground water resources, in partnership with the local communities. As on 30.06.2016, Aquifer mapping has been completed in an area of 3.46 lakh sq. km.
This Ministry has taken up the National Groundwater Management Improvement Programme (NGWMIP) as a Central Sector Scheme with the total financial outlay of Rs. 6000 crore, of which Rs. 3000 crore shall come as World Bank loan. Over a period of six years, this project, which has inherent linkages with NHP and NAQUIM, will implement management plans prepared under NAQUIM initially in the States of Rajasthan, Haryana, Maharashtra, Gujarat and Karnataka, parts of Western UP and Bundelkhand to cover some of the most heavily exploited groundwater areas in India which confront serious groundwater availability and quality issues.
This Ministry is working in convergence with Ministry of Rural Development to work in a focused manner for recharge of the overexploited blocks under Mahatma Gandhi National Rural Employment Guarantee Scheme; Department of Land Resources for Water shed Management; and Ministry of Agriculture and Farmers Welfare under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) for optimal use of available water resources.
The Government of India has established National Water Mission (NWM) as one of the eight missions under National Action Plan on Climate Change. The main objective of NWM is "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management".
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